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Washington, D.C. 20231

PATENT
Attorney Docket No.: 015389-002611US
Client Reference No.: 018/063C



On February 25, 2003

TOWNSEND and TOWNSEND and CREW LLP

By: Maisie C. Livengood
Maisie C. Livengood

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IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of:

Geron Corporation

Application No.: 09/432,503

Filed: November 2, 1999

For: HUMAN TELOMERASE
CATALYTIC SUBUNIT

Examiner: Peter P. Tung

Art Unit: 1652

SUPPLEMENTAL INFORMATION
DISCLOSURE STATEMENT UNDER 37
CFR §1.97 and §1.98

Assistant Commissioner for Patents
Washington, D.C. 20231

Sir:

The references cited on attached form PTO/SB/08A and PTO/SB/08B are being called to the attention of the Examiner. With the exception of references AV, AW and AX, copies of which are enclosed, copies of the references can be found in U.S. Patent Application 08/912,951 filed August 14, 1997 (now U.S. Patent 6,475,789, issued November 5, 2002).

It is respectfully requested that the cited references be expressly considered during the prosecution of this application, and the references be made of record therein and appear among the "references cited" on any patent to issue therefrom.

As provided for by 37 CFR 1.97(g) and (h), no inference should be made that the information and references cited are prior art merely because they are in this statement and no

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Geron Corporation
Application No.: 09/432,503
Page 2

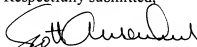
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representation is being made that a search has been conducted or that this statement encompasses all the possible relevant information.

This IDS is being filed before the mailing date of the final Office Action or Notice of Allowance.

Please charge the IDS fee of \$180 to Deposit Account No. 20-1430. Please deduct any additional fees from, or credit any overpayment to, the above-noted Deposit Account.

Respectfully submitted,



Scott L. Ausenhus
Reg. No. 42,271

TOWNSEND and TOWNSEND and CREW LLP
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet **3** of **12**

Complete if Known

Application Number 09/432,503
 Filing Date November 2, 1999
 First Named Inventor Cech, Thomas R., et. al.
 Art Unit 1652
 Examiner Name Peter P. Tung
 Attorney Docket Number 015389-002611US

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U.S. PATENT DOCUMENTS

Examiner	Cite No. ¹	Document Number Number Kind Code ² (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear
	AA	08/751,189	11-15-96	Harrington, et al.	
	AB	60/038,750	02-20-1997	Counter, et al.	
	AC	3,817,837	06-18-1974	Tanenholtz et al.	
	AD	3,850,752	11-26-1974	Schuurs et al.	
	AE	3,939,350	02-17-1076	Kronick et al.	
	AF	3,996,345	12-01-1976	Ullman et al.	
	AG	4,275,149	06-23-1081	Litman et al.	
	AH	4,277,437	07-07-1981	Maggio	
	AI	4,366,241	12-28-1982	Tom et al.	
	AJ	4,683,195	07-28-1987	Mullis et al.	
	AK	4,683,202	07-28-1987	Mullis	
	AL	4,816,567	03-28-1989	Cabily et al.	
	AM	4,965,188	10-23-1990	Mullis et al.	
	AN	5,489,508	02-06-1996	West et al.	
	AO	5,583,016	12-10-1996	Villeponteau et al.	
	AP	5,747,317	05-05-1998	Cao	
	AQ	5,770,422	06-23-1998	Collins	
	AR	6,093,809	07-25-2000	Cech, et al.	
	AS	6,258,535 - B1	07-10-2001	Villeponteau et al.	
	AT	6,261,556 - B1	07-17-2001	Weinrich et al.	
	AU	6,261,836 - B1	07-17-2001	Cech et al.	
	AV	6,093,809	07-25-2000	Cech et al.	
	AW	6,166,178	12/26-2000	Cech et al.	
	AX	6,475,789 B1	11-05-2002	Cech et al.	

FOREIGN PATENT DOCUMENTS

Examiner Initials ¹	Cite No. ¹	Foreign Patent Document Country Code ² Number ⁴ Kind Code ⁶ (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Pages, Columns, Lines, Where Relevant Passages or Relevant Figures Appear	T ⁵
	AY	JP 09154575-A	06-17-97			
	AZ	PCT WO 84/03564	09-13-84			
	BA	PCT WO 95/13382	05-18-95			
	BB	PCT WO 96/01835	01-25-96			
	BC	PCT WO 96/12811	05-02-96			
	BD	PCT WO 96/19580	06-27-96			
	BE	PCT WO 96/40868	12-19-96			
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² Applicant's unique citation designation number (optional). ³ Kind Codes of U.S. Patent Documents at www.uspto.gov or MPEP 901.04. ⁴ Enter Office that issued the document, by the two-letter code (WIPO Standard ST.3). ⁵ For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. ⁶ Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. ⁷ Applicant is to place a check mark here if English language Translation is attached.

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Sheet **4** of **12**

Complete if Known

Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US



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		Country Code ²	Number ⁴	Kind Code ⁵ (if known)				
	BF	PCT	WO 98/01542			01-15-98		
	BG	PCT	WO 98/01543			01-15-98		
	BH	PCT	WO 98/07838			03-05-98		
	BI	PCT	WO 98/08938			02-26-98		
	BJ	PCT	WO 98/21343			05-22-98		
	BK	PCT	WO 98/37181			08-27-98		
	BL	PCT	WO 98/45450			10-15-98		
	BM	PCT	WO98/59040			12/30/98		
	BN	PCT	WO99/01560			01/14/99		

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet **5** of **12**

Complete if Known
Application Number 09/432,503
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First Named Inventor Cech, Thomas R., et. al.
Art Unit 1652
Examiner Name Peter P. Tung
Attorney Docket Number 015389-002611US

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	BO	1994 Genome Issue of <i>Science</i> (265:1981f)	
	BP	Anderson and Young, "Quantitative Filter Hybridization" in <i>Nucleic Acid Hybridization</i> pp73-111 (1985)	
	BQ	Ausubel et al., (1989); <i>Current Protocols in Molecular Biology</i> ; pp 5.1-5.11, 16.1-16.3 and 16.9-16.20; John Wiley & Sons, New York NY	
	BR	Autexier et al., "Reconstitution of human telomerase activity and identification of a minimal functional region of the human telomerase RNA," (1996) <i>EMBO J.</i> 15:5928	
	BS	Auxier and Greider, "Functional reconstitution of wild-type and mutant <i>Tetrahymena</i> telomerase," (1994) <i>Genes Develop.</i> 8:563	
	BT	Berger and Kimmel, <i>Guide to Molecular Cloning Techniques</i> ; (1987); Meth. Enzymol.; vol. 152; pp 305-389; Academic Press; San Diego CA	
	BU	Blissman et al., "Addition of Telomere-Associated HeT DNA Sequences "Heals" Broken Chromosome End s in <i>Drosophila</i> ," (1990) <i>Cell</i> , 61:663	
	BV	Bitter et al., "Expression and secretion vectors for yeast," <i>Meth Enzymol.</i> , (1987) 153:516	
	BW	Blackburn and Chiu, "Non-nucleosomal packaging of a tandemly repeated DNA sequence at termini of extrachromosomal DNA coding for rRNA in <i>Tetrahymena</i> ," (1991) <i>Proc. Natl. Acad. Sci.</i> , 78:2263	
	BX	Blackburn and Gall, "A tandemly repeated sequence at the termini of the extrachromosomal ribosomal RNA genes in <i>Tetrahymena</i> ," (1978) <i>J. Mol. Biol.</i> , 120:33	
	BY	Blackburn, "Telomerases," (1992) <i>Annu. Rev. Biochem.</i> , 61:113	
		Bodnar et al., "Extension of Life-Span by Introduction of Telomerase into Normal Human Cells," (1998) <i>Science</i> , 279:349	
		Bradford, "A Rapid and Sensitive method for the Quantitation of Microgram Quantities of Protein Utilizing the Principle of Protein-Dye Binding," (1976) <i>Anal. Biochem.</i> , 72:248	
		Braunstein et al., "Transcriptional silencing in yeast is associated with reduced nucleosome acetylation," (1993) <i>Genes Develop.</i> , 7:592	

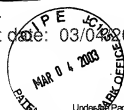
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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 6 of 12

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Application Number 09/432,503
Filing Date November 2, 1999
First Named Inventor Cech, Thomas R., et al.
Art Unit 1652
Examiner Name Peter P. Tung
Attorney Docket Number 015389-002611US

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OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Calvio et al., "Identification of hnRNP P2 as TLS/FUS using electrospray mass spectrometry," (1995) <i>RNA</i> , 1:724	
		Canuthers et al., "New chemical methods for synthesizing polynucleotides," (1980) <i>Nucleic Acids Res. Symp. Ser.</i> , 215-223	
		Chan and Tye, "Organization of DNA sequences and replication origins at yeast telomeres," (1983) <i>Cell</i> , 33:563	
		Colbere-Garapin et al., "A new dominant hybrid selective marker for higher eukaryotic cells," (1981) <i>J. Mol. Biol.</i> , 150:1	
		Cole et al., "The EBV-hybridoma technique and its application to human lung cancer," <i>Monoclonal Antibodies and Cancer Therapy</i> , Alan R. Liss Inc., New York NY 77-96 (1985)	
		Collins et al., "Purification of Tetrahymena telomerase and cloning of genes encoding the two protein components of the enzyme," (1995) <i>Cell</i> , 81:677	
		Conrad et al., "RAP1 protein interacts with yeast telomeres in vivo: Overproduction alters telomere structure and decreases chromosome stability," (1990) <i>Cell</i> , 63:739	
		Coombs, <i>Dictionary of Biotechnology</i> , (1994), pp. 101-102, 283, 301 and 332; Stockton Press, New York NY	
		Cote et al., "Generation of human monoclonal antibodies reactive with cellular antigens," (1983) <i>Proc. Natl. Acad. Sci.</i> , 80:2026	
		Counter et al., "The catalytic subunit of yeast telomerase," (1997) <i>Proc. Natl. Acad. Sci.</i> , 94 9202	
		Counter et al., (1994) <i>Proc. Natl. Acad. Sci.</i> , 91:2900	
		Creighton, <i>Proteins, Structures and Molecular Principles</i> , (1983); pp. 1-60; WH Freeman and Co; New York, NY	
		Dieffenbach and Dveksler; <i>PCR Primer, a Laboratory Manual</i> , (1995) pp. 131-156, 453-462 and 507-580; Cold Spring Harbor Press, Plainview NY	
		Duplax et al., "Quantitative analysis of polymerase chain reaction products using biotinylated dUTP incorporation," (1993) <i>Anal. Biochem.</i> , 212:229	

Examiner Signature		Date Considered	
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Sheet 7 of 12

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Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

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		Fang et al., "Oxytricha telomere-binding protein: separable DNA-binding and dimerization domains of the a-subunit," <i>Genes Develop.</i> 7:870 (1993) and Gray et al., (1991) <i>Cell</i> 67:807	
		Feng et al., "The RNA Component of Human Telomerase," (1995) <i>Science</i> , 269:1236	
		GenBank Accession No. AA281296; April 2, 1997	
		Genbank accession no. AA298878; April 18, 1997	
		Genbank accession no. AA311750; April 19, 1997	
		Gilley et al., "Altering specific telomerase RNA template residues affects active site function," (1995) <i>Genes Develop.</i> , 9:2214	
		Gottschling and Cech, "Chromatin Structure of the Molecular Ends of Oxytricha Mononuclear DNA: Phased Nucleosomes and a Telomeric Complex," (1984) <i>Cell</i> , 38:501	
		Gottschling and Zakian, "Telomere proteins: specific recognition and protection of the natural termini of Oxytricha macronuclear DNA," (1986) <i>Cell</i> 47:195	
		Grant et al., <i>Meth Enzymol.</i> , (1987) 153:516-544	
		Greenwood et al., "Phylogenetic relationships within the class oligophenophorea, phylum ciliophora, inferred from the complete small subunit rRNA gene sequences of <i>Colpidium campylum</i> , <i>Glaucoma chaetoni</i> , and <i>Opisthoxena henneyi</i> ," (1991) <i>J. Mol. Evol.</i> , 3:163	
		Greider and Blackburn, "A telomeric sequence in the RNA of Tetrahymena telomerase required for telomere repeat synthesis," (1989) <i>Nature</i> , 337:331	
		Greider and Blackburn, "Identification of a specific telomere terminal transferase activity in Tetrahymena extracts," (1985) <i>Cell</i> , 43:405	
		Greider, "Telomerase is processive," (1991) <i>Mol. Cell. Biol.</i> , 11:4572	
		Greider, "Telomere Length Regulation," (1996) <i>Ann. Rev. Biochem.</i> , 65:337	

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of

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First Named Inventor Cech, Thomas R., et al.

Art Unit 1652

Examiner Name Peter P. Tung

Attorney Docket Number 015389-002611US

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		Hampton et al., <i>Serological Methods a Laboratory Manual</i> ; (1990); pp. 33-86, 179-286; APS Press, St Paul MN	
		Harrington et al., "A Mammalian Telomerase-Associated Protein," (1997) <i>Science</i> , 275:973	
		Harrington et al., "Human telomerase contains evolutionarily conserved catalytic and structural subunits," (1997) <i>Genes Dev.</i> , 11:3109	
		Hartman and Mulligan, "Two dominant-acting selectable markers for gene transfer studies in mammalian cells," (1988) <i>Proc. Natl. Acad. Sci.</i> , 85:8047	
		Henderson and Blackburn, "An overhanging 3' terminus is a conserved feature of telomeres," (1989) <i>Mol. Cell. Biol.</i> , 9:345	
		Horn et al., "Synthesis of oligonucleotides on cellulose. Part II: design and synthetic strategy to the synthesis of 22 oligodeoxynucleotides coding for gastric inhibitory polypeptide (GIP)," (1980) <i>Nucleic Acids Res. Symp. Ser.</i> , 225-232	
		Hudson et al., "An STS-based map of the human genome," (1995) <i>Science</i> , 270:1945	
		Huse et al., "Generation of a large combinatorial library of the immunoglobulin repertoire in phage lambda," (1989) <i>Science</i> , 246:1275	
		Johnson et al., (1991) <i>Mol. Cell Biol.</i> 11:1	
		Kilian et al., "Isolation of a candidate human telomerase catalytic subunit gene, which reveals complex splicing patterns in different cell types," (1997) <i>Hum. Mol. Genet.</i> , 6:2011	
		Kipling and Cooke, "Hypervariable ultra-long telomeres in mice," (1990) <i>Nature</i> 347:400	
		Klobutcher et al., "All gene-sized DNA molecules in four species of hypotrichs have the same terminal sequence and an unusual 3' terminus," (1981) <i>Proc. Natl. Acad. Sci.</i> , 78:3015	
		Koehler and Milstein, "Continuous cultures of fused cells secreting antibody of predefined specificity," (1975) <i>Nature</i> 256:495	
		Kosbor et al., "The production of monoclonal antibodies from human lymphocytes," (1983) <i>Immunol. Today</i> 4:72	

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OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

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		Lamond and Sproat: (1994) "Isolation and Characterization of Ribonucleoprotein Complexes." In <i>RNA Processing: A Practical Approach</i> ; (Higgins, S.J. and Hawes, B.D. Eds.), Volume 1; pp103-140	
		Lamond et al., "Probing the structure and function of U2 snRNP with antisense oligonucleotides made of 2'-OME RNA," (1989) <i>Cell</i> , 58:383	
		Lendvay et al., "Senescence mutants of <i>Saccharomyces cerevisiae</i> with a defect in telomere replication identify three additional EST genes," (1996) <i>Genetics</i> , 144	
		Lingner et al., "Purification of telomerase from <i>Euplotes aedeolatus</i> : requirement of a primer 3' overhang," (1996) <i>Proc. Natl. Acad. Sci.</i> , 93:10712	
		Lingner et al., "Reverse transcriptase motifs in the catalytic subunit of telomerase," (1997) <i>Science</i> , 276:561	
		Lingner et al., "Telomerase RNAs of different ciliates have a common secondary structure and a permuted template," (1994) <i>Genes Develop.</i> , 8:1984	
		Lingner et al., "Telomerase and DNA End Replication: No Longer a Lagging Strand Problem?," (1995) <i>Science</i> 269:1533	
		Lowy et al., "Isolation of transforming DNA: Cloning the hamster apt gene," (1980) <i>Cell</i> , 22:817	
		Lustig and Petes, "Identification of yeast mutants with altered telomere structure," (1986) <i>Proc. Natl. Acad. Sci.</i> , 83:1398	
		Maddox et al., "Elevated serum levels in human pregnancy of a molecule immunochemically similar to eosinophil granule major basic protein," (1983) <i>J. Exp. Med.</i> , 158:1211	
		Makarov et al., "Nucleosomal Organization of Telomere-Specific Chromatin in Rat," (1993) <i>Cell</i> , 73:775	
		McEachern and Blackburn, "runaway telomere elongation caused by telomerase RNA gene mutation," (1995) <i>Nature</i> , 376:403	
		Melby et al., "Quantitative measurement of human cytokine gene expression by polymerase chain reaction," (1993) <i>J. Immunol. Meth.</i> , 159:235	
		Merrifield, "Solid phase peptide synthesis. I. The synthesis of a tetrapeptide," (1963) <i>J. Am. Chem. Soc.</i> , 85:2149	

Examiner Signature	Date Considered
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Substitute for form 1449b (10-01)

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet **10** of **12**

Complete if Known

Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

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		Meyerson et al., "hEST2, the Putative Human Telomerase Catalytic Subunit Gene, Is Up-Regulated in Tumor Cells and during Immortalization," (1997) <i>Cell</i> , 90:785	
		Murray, <i>In McGraw Hill Yearbook of Science and Technology</i> , (1992) McGraw Hill, New York NY, pp 191-196	
		Nakamura et al., "Telomerase Catalytic Subunit Homologs from Fission Yeast and Human," (1997) <i>Science</i> , 277:955	
		Nakayama et al., "TLP1: A Gene Encoding a Protein Component of Mammalian Telomerase Is a Novel Member of WD Repeats Family," (1997) <i>Cell</i> , 88:875	
		Nielsen et al., (1993) "Peptide nucleic acids (PNAs): Potential antisense and anti-gene agents," <i>Anticancer Drug Des.</i> , 8:53	
		Oka et al., "Inverted terminal repeat sequence in the macronuclear DNA of <i>Stylonychia pustulata</i> ," (1980) <i>Gene</i> , 10:301	
		Olovnikov, "A theory of marginotomy. The incomplete copying of template margin in enzymic synthesis of polynucleotides and biological significance of the phenomenon," (1973) <i>J. Theor. Biol.</i> , 41:181	
		Orlandi et al., "Cloning immunoglobulin variable domains for expression by the polymerase chain reaction," (1989) <i>Proc. Natl. Acad. Sci.</i> , 86:3533	
		Prescott, "The DNA of ciliated protozoa," (1994) <i>Microbiol. Rev.</i> , 58:233	
		Price, (1993) <i>Blood Rev.</i> , 7:127	
		Rhodes et al., "Transformation of maize by electroporation of embryos," (1995) <i>Meth. Mol. Biol.</i> , 55:121	
		Roberge et al., "A strategy for a convergent synthesis of N-linked glycopeptides on a solid support," (1995) <i>Science</i> , 269:202	
		Romero and Blackburn, "A conserved secondary structure for telomerase RNA," (1991) <i>Cell</i> , 67:343	
		Sambrook et al., <i>Molecular Cloning, A Laboratory Manual</i> , (1989); pp. 8.1-8.86 and 16.1-17.44; Cold Spring Harbor Press, Plainville NY	

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INFORMATION DISCLOSURE STATEMENT BY APPLICANT

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Sheet 11 of 12

Complete if Known

Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. 1	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Sandell et al., "Transcription of yeast telomere alleviates telomere position effect without affecting chromosome stability," (1994) <i>Proc. Natl. Acad. Sci.</i> , 91:12061	
		Sanger et al., "DNA sequencing with chain-terminating inhibitors," (1977) <i>Proc. Natl. Acad. Sci.</i> , 74:5463	
		Scharf et al., "Heat stress promoters and transcription factors," (1994) <i>Result Probl. Cell Differ.</i> 20:125	
		Shampay and Blackburn, "Generation of telomere-length heterogeneity in <i>Saccharomyces cerevisiae</i> ," (1988) <i>Proc. Natl. Acad. Sci.</i> , 85:534	
		Sheen and Levis, "Transposition of the LINE-like retrotransposon TART to <i>Drosophila</i> chromosome termini," (1994) <i>Proc. Natl. Acad. Sci.</i> , 91:12510	
		Singer and Gottschling, "TLC1: Template RNA Component of <i>Saccharomyces cerevisiae</i> Telomerase," (1994) <i>Science</i> 266:404	
		Starling et al., "Extensive telomere repeat arrays in mouse are hypervariable," (1990) <i>Nucleic Acids Res.</i> , 18:6881	
		Swanton et al., "Arrangement of Coding and Non-coding Sequences in the DNA Molecules Coding for rRNAs in <i>Oxytricha</i> sp.," (1980) <i>Chromosoma</i> 77:203	
		Tommerup et al., "Unusual chromatin in human telomeres," (1994) <i>Mol. Cell. Biol.</i> , 14:5777	
		Trask, "Fluorescence in situ hybridization: application in cytogenetics and gene mapping," (1991) <i>Trends Genet.</i> , 7:149	
		Verma et al., "Human Chromosomes: A Manual of Basic Techniques," (1988); pp. 4-30, 152-190; Pergamon Press, New York NY	
		Watson, "Origin of concatemeric T7 DNA," (1972) <i>Nature New Biol.</i> , 239:197	
		Weinrich et al., "Reconstitution of human telomerase with the template RNA component hTR and the catalytic protein subunit hTERT," (1997) <i>Nat. Genet.</i> , 17(4):498-502	
		Wellinger et al., "Origin activation and formation of single-strand TG ₃ tails occur sequentially in late S phase on a Yeast linear plasmid," (1993) <i>Mol. Cell. Biol.</i> , 13:4057	

Examiner Signature	Date Considered
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Substitute for form 1449b(1) (10)

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet 12 of 12**Complete if Known**

Application Number	09/432,503
Filing Date	November 2, 1999
First Named Inventor	Cech, Thomas R., et. al.
Art Unit	1652
Examiner Name	Peter P. Tung
Attorney Docket Number	015389-002611US

OTHER PRIOR ART -- NON PATENT LITERATURE DOCUMENTS

Examiner Initials *	Cite No. ¹	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city and/or country where published.	T ²
		Wellinger et al., "Saccharomyces Telomeres Acquire Single-Strand TG ₁₋₃ Tails Late in S Phase," (1993) <i>Cell</i> 72:51	
		Whitehead Institute/MIT Center for Genome Research, Genetic Map of the Mouse, Database Release 10, April 28, 1995	
		Wigier et al., "Transfer of purified herpes virus thymidine kinase gene to cultured mouse cells," (1977) <i>Cell</i> , 11:223	
		Wigier et al., "Transformation of mammalian cells with an amplifiable dominant-acting gene," (1980) <i>Proc. Natl. Acad. Sci.</i> , 77:3567	
		Winter and Milstein, "Man-made antibodies," (1991) <i>Nature</i> , 349:293	
		Wright et al., "Saccharomyces telomeres assume a non-nucleosomal chromatin structure," (1992) <i>Genes Develop.</i> , 6:197	
		Yu et al., "In vivo alteration of telomere sequences and senescence caused by mutated Tetrahymena telomerase RNAs," (1990) <i>Nature</i> , 344:126	
		Zahler and Prescott, "Telomere terminal transferase activity in the hypotrichous ciliate <i>Oxytricha nova</i> and a model for replication of the ends of linear DNA molecules," (1988) <i>Nucleic Acids Res.</i> , 16:6953	
		Zakian, Telomeres: Beginning to Understand the End," (1995) <i>Science</i> 270:1601	
		Zaug et al., "Catalysis of RNA Cleavage by a Ribozyme Derived from the Group I Intron of <i>Anabaena</i> Pre-rRNA ^{45S} ," (1996) <i>Nucleic Acids Research</i> , 24:532-533	

Examiner Signature	/Jon Eric Angell/	Date Considered	03/26/2009
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TRANSMITTAL FORM (to be used for all correspondence after initial filing)	Application Number	09/432,503	
	Filing Date	November 2, 1999	
	First Named Inventor	Cech, Thomas R.	
	Art Unit	1652	
	Examiner Name	Delia M. Ramirez	
Total Number of Pages in This Submission	1	Attorney Docket Number	015389-002611US



ENCLOSURES (Check all that apply)		
<input checked="" type="checkbox"/> Fee Transmittal Form <input type="checkbox"/> Fee Attached <input type="checkbox"/> Amendment / Reply <input type="checkbox"/> After Final <input type="checkbox"/> Affidavits/declaration(s) <input type="checkbox"/> Extension of Time Request <input type="checkbox"/> Express Abandonment Request <input checked="" type="checkbox"/> Information Disclosure Statement copies of 3 of the cited references) <input type="checkbox"/> Certified Copy of Priority Document(s) <input type="checkbox"/> Response to Missing Parts/ Incomplete Application <input type="checkbox"/> Response to Missing Parts under 37 CFR 1.52 or 1.53	<input checked="" type="checkbox"/> Drawing(s) (103 pages formal drawings) <input type="checkbox"/> Licensing-related Papers <input type="checkbox"/> Petition <input type="checkbox"/> Petition to Convert to a Provisional Application <input type="checkbox"/> Power of Attorney, Revocation Change of Correspondence Address <input type="checkbox"/> Terminal Disclaimer <input type="checkbox"/> Request for Refund <input type="checkbox"/> CD, Number of CD(s)	<input type="checkbox"/> After Allowance Communication to Group <input type="checkbox"/> Appeal Communication to Board of Appeals and Interferences <input type="checkbox"/> Appeal Communication to Group (Appeal Notice, Brief, Reply Brief) <input type="checkbox"/> Proprietary Information <input type="checkbox"/> Status Letter <input checked="" type="checkbox"/> Other Enclosure(s) (please identify below): Return Postcard; Amendment - Submission of Substitute Specification; Substitute Specification; Marked-up version of specification; original Appointment of Associate Attorney (submitted by facsimile on 12/2/02)
Remarks		The Commissioner is authorized to charge any additional fees to Deposit Account 20-1430.
SIGNATURE OF APPLICANT, ATTORNEY, OR AGENT		
Firm or Individual	Townsend and Townsend and Crew LLP	
Signature	Scott L. Aushenus	Reg. No. 42,271
Date	February 25, 2003	

CERTIFICATE OF TRANSMISSION/MAILING			
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FEE TRANSMITTAL for FY 2003

Patent fees are subject to annual revision.

☐ Applicant claims small entity status. See 37 CFR 1.27

TOTAL AMOUNT OF PAYMENT (\$) 180

Complete if Known

Application Number 09/432,503
Filing Date November 2, 1999
First Named Inventor Cech, Thomas R.
Examiner Name Delia M. Ramirez
Group Art Unit 1652
Attorney Docket No. 015389-002611US

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METHOD OF PAYMENT (check all that apply)

☐ Check ☐ Credit Card ☐ MoneyOrder ☐ Other ☐ None

☒ Deposit Account:

Deposit Account Number 20-1430

Deposit Account Name Townsend and Townsend and Crew LLP

The Commissioner is authorized to: (check all that apply)

☒ Charge fee(s) indicated below ☒ Credit any overpayments
☒ Charge any additional fee(s) during the pendency of this application

☐ Charge fee(s) indicated below, except for the filing fee to the above-identified deposit account.

FEE CALCULATION

1. BASIC FILING FEE

Large Entity	Small Entity	Fee Code	Fee (\$)	Fee Description	Fee Paid
1001	750	2001	375	Utility filing fee	
1002	330	2002	165	Design filing fee	
1003	520	2003	260	Plant filing fee	
1004	750	2004	375	Reissue filing fee	
1005	160	2005	80	Provisional filing fee	

SUBTOTAL (1) (\$) 180

2. EXTRA CLAIM FEES FOR UTILITY AND REISSUE

Total Claims	Extra Claims	Fees from below	Fee Paid
Independent Claims	** =	X =	
Multiple Dependent	** =	X =	

Large Entity	Small Entity	Fee Code	Fee (\$)	Fee Description
1202	18	2202	9	Claims in excess of 20
1201	84	2201	42	Independent claims in excess of 3
1203	280	2203	140	Multiple dependent claim, if not paid
1204	84	2204	42	** Reissue independent claims over original patent
1205	18	2205	9	** Reissue claims in excess of 20 and over original patent

SUBTOTAL (2) (\$) 180

**or number previously paid, if greater; For Reissues, see above

FEE CALCULATION (continued)

Large	Entity	Small	Entity	Fee Code	Fee (\$)	Fee Description	Fee Paid
1051	130	2051	65			Surcharge - late filing fee or oath	
1052	50	2052	25			Surcharge - late provisional filing fee or cover sheet	
1053	130	1053	130			Non-English specification	
1812	2,520	1812	2,520			For filing a request for reexamination	
1804	920*	1804	920*			Requesting publication of SIR prior to Examiner action	
1805	1,840*	1805	1,840*			Requesting publication of SIR after Examiner action	
1251	110	2251	55			Extension for reply within first month	
1252	410	2252	205			Extension for reply within second month	
1253	930	2253	465			Extension for reply within third month	
1254	1,450	2254	725			Extension for reply within fourth month	
1255	1,970	2255	985			Extension for reply within fifth month	
1401	320	2401	160			Notice of Appeal	
1402	320	2402	160			Filing a brief in support of an appeal	
1403	280	2403	140			Request for oral hearing	
1451	1,510	1451	1,510			Petition to institute a public use proceeding	
1452	110	2452	55			Petition to revive - unavoidable	
1453	1,300	2453	650			Petition to revive - unintentional	
1501	1,300	2501	650			Utility issue fee (or reissue)	
1502	470	2502	235			Design issue fee	
1503	630	2503	315			Plant issue fee	
1460	130	1460	130			Petitions to the Commissioner	
1807	50	1807	50			Petitions related to provisional applications	
1806	180	1806	180			Submission of Information Disclosure Sheet	180
8021	40	8021	40			Recording each patent assignment per property (times number of properties)	
1809*	750	2809*	375			Filing a submission after final rejection (37 CFR § 1.129(a))	
1810	750	2810	375			For each additional invention to be examined (37 CFR § 1.129(b))	
1801	750	2801	375			Request for Continued Examination (RCE)	
1802	900	1802	900			Request for expedited examination of a design application	

Other fee (specify) _____

*Reduced by Basic Filing Fee Paid SUBTOTAL (3) (\$) 180

SUBMITTED BY

Name (Print/Type) Scott C. Auserhus Registration No. (Attorney/Agent) 42,271 Telephone 303-571-4000
Signature [Signature] Date February 25, 2003

Complete (if applicable)

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